1   **SYSTEM, APPARATUS AND METHOD FOR THE DETECTION AND**

2   **REMOVAL OF VIRUSES IN MACROS**

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4   **ABSTRACT OF THE DISCLOSURE**

5   The detection and removal of viruses from macros is disclosed. A macro

6   virus detection module includes a macro locating and decoding module, a macro

7   virus scanning module, a macro treating module, a file treating module, and a virus

8   information module. The macro locating and decoding module determines

9   whether a targeted file includes a macro, and, where a macro is found, locates and

10   decodes it to produce a decoded macro. The macro virus scanning module

11   accesses the decoded macro and scans it to determine whether it includes any

12   viruses. Unknown macro viruses are detected by the macro virus scanning module

13   by obtaining comparison data that includes sets of instruction identifiers from the

14   virus information module and determining whether the decoded macro includes a

15   combination of suspect instructions which correspond to instruction identifiers.

16   The macro treating module locates suspect instructions in the decoded macro using

17   the comparison data and removes the suspect instructions to produce a treated

18   macro. The file correcting module accesses a targeted file with an infected macro

19   and replaces the infected macro with the treated macro produced by the macro

20   treating module.

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